Ministry of
Transportation and
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Ontario

REPORT EM-73

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Compiled

by

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September, 1984

ALKALI AGGREGATE REACTIONS IN CANADA - A BIBLIOGRAPHY

INTRODUCTION

Alkali-aggregate reactions in Portland cement concrete are becoming a greater problem than formerly suspected in some parts of Canada. This is due partly to a gradual increase in alkali contents of Canadian cements and also to the increasing diversity of rock types used as aggregate. A greater awareness of the nature of the problem and the recognition of previously unidentified alkali-reactive aggregates has also contributed to increased concern.

This bibliography has been compiled to serve as a guide to existing Canadian work on these reactions. It is hoped that this will be a useful tool for further research.

Papers selected for inclusion fall into three broad categories:

(1) Work on Canadian reactive aggregate sources by Canadian researchers;

(2) Work on Canadian reactive aggregate sources by researchers in the United States; and

(3) Papers on the evaluation and testing of Canadian aggregates where alkali-reactivity, or the lack of it, is briefly mentioned.

Out of 110 citations there are 21 unpublished reports. These unpublished reports have been included for the sake of completeness even though copies may not be readily available.

The format has been designed so that the individual items may be cut out and pasted on to 3 x 5 inch file cards.

It is hoped that this bibliography is as complete and accurate as possible. We would be grateful if readers would inform us of any omissions or corrections.* We would also appreciate receiving copies of new papers and reports (published and unpublished) on this topic. These will be incorporated in future revisions of this bibliography.

Three papers on aggregate reactions unrelated to alkali-reactions have been cited in an appendix.

The major sources used in compilation have been the Ontario Ministry of Transportation and Communications library and files, and a bibliography compiled by J.W. Figg (Alkali-Aggregate Reactivity - A Bibliography; CEMBUREAU, Paris, Sept., 1977). Assistance was also given by J. Gillott, University of Calgary, and P. Grattan-Bellew, National Research Council. The assistance of library staff and these individuals is gratefully acknowledged.

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